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Demand for Flexibility or Generation of Insecurity? The Individualization of Risk, Irregular Work Shifts and Canadian Youth

Melinda Mills

The individualization of risk is alleged to have generated a rise in flexible and insecure forms of non-standard employment, which in turn create 'new inequalities and insecurities' that permeate all social groups. Using longitudinal data from the Canadian Survey of Labour and Income Dynamics (1993–98), this study empirically assesses this claim by examining the levels of insecurity, composition and voluntary nature of jobs with irregular work times. The institutional structures of the individualist employment and liberal welfare regimes and education system are considered as important filters. Findings demonstrate that we have not entered a 'post-class' society, but that established inequality structures of social class, gender, and minority status persist. Jobs with irregular shifts have an internal hierarchy that produce different levels of economic, employment relation and social integration insecurity. The majority of youth in these jobs face higher insecurity and view non-standard shifts as involuntary, supporting the notion that risk is increasingly shifted from the state or firm to the individual. The broader implications for social life are then considered followed by the discussion of whether these are 'stop-gap' jobs or the creation of a 'precarious proletariat'.

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Introduction

A chief assertion of late modernity is that risk has been individualized and thus shifted to the shoulders of individuals (Beck 1992, 2000). This 'individualization of risk' is alleged to have generated a rise in underemployment, characterized by flexible, plural and risky forms of non-standard employment. According to Beck (1992, p. 143), this redistribution of working hours and rise of precarious employment 'creates new insecurities and inequalities' to the extent that we experiencing the transition from a class society to a risk society. An emerging type of precarious work is temporal flexibility in the form of jobs with irregular work hours. In North America, one of the fastest growing groups of workers is those with irregular work hours. In the early 1990s, only 31.5 per cent of employed Americans worked a 'standard' schedule, defined as employed during the daytime, 5 days per week, Monday–Friday, 35–40 hours per week (Presser 1995). Between 1985 and 1997, the number of workers in the United States holding irregular schedules doubled (Beers 2000). Canada has witnessed a 17 per cent increase in irregular work schedules from 1991 to 1995, which in 1995 represented 33 per cent of the Canadian labour force (Johnson 1997).

The goal of this study is to empirically assess these aspects of the risk society thesis by examining levels of insecurity, composition and voluntary nature of jobs with irregular work times among Canadian youth. Three central research questions emerge. First, have we entered a post-class society with 'new inequalities'? Or does this type of precarious work reinforce existing inequality structures, such as class, gender and ethnic minority status? Second, why are youth employed in jobs with irregular times? Do they demand flexible schedules to combine employment with parallel careers as education or family, or has risk been individualized to the extent that they are they forced to take them for involuntary reasons? Finally, what are the implications of irregular work times for the lives of youth? Do these types of jobs generate 'new insecurities' such as social integration, employment relations or economic precariousness?

The next section provides a definition of irregular work shifts accompanied by a brief literature review. This is followed by a theoretical discussion of the pertinence of the individualization of risk thesis for youth entering the labour market. Macro-level 'supply' mechanisms that have attributed to the upsurge in this type of work are discussed, such as the globalization of markets, intensification of international market competition, rise of the secondary labour market and service sector, aging population, and technological advances. In the third section, the institutional structures of the education system, individualist employment and liberal welfare regimes are considered as important filters in the individualization process. The facility for youth to act and demand this type of flexible work is discussed in the subsequent section and connected with youth's level of human capital, inequality structures and whether these jobs meet flexibility demands or generate different types of insecurity. The fifth section describes the data from the Survey of Labour and Income Dynamics (1993–98) and multinomial logistic model that are used to

Table 1 Definition of work shift measures

Type of work schedule	Detailed definition
Fixed daytime shift	Roughly 9 to 5
Fixed afternoon/evening shift	3–4 p.m. for a few hours or until midnight
Graveyard shift	Midnight to roughly 8 a.m.
Rotating shift	Combination of two or more of the above shifts
Split shift, on call, irregular	Split, precarious or irregular combination of shifts, as determined by the employer

examine the type of shift at labour market, and the second logistic model that explores whether precarious shifts are (in)voluntary. Results are then discussed, followed by a critical discussion of the repercussions of this trend for social life and youth's early life course.

Defining Irregular Work Shifts

Following Presser and Cox (1997), Table 1 provides a description of the work shift measures used in this study. A regular work schedule is defined as a fixed daytime shift, with the remaining shifts classified as irregular [1]. Irregular work shifts differ from flexitime, where workers personally set the time they begin and end within a few hours of their core schedules. Presser (1998, p. 40) explains the vital distinction that 'non-standard work schedules are set by employers to meet their needs, not those of their employees'. It is a growing type of labour market flexibility that falls under the auspices of 'temporal' flexibility where employers adjust not only the amount of hours individuals work in accordance to cyclical or seasonal demands, but when labour is required (Regini 2000). This is opposed to other flexibility measures such as adjusting the number of people employed (i.e., numerical flexibility), or their earnings (i.e., financial flexibility) or tasks (i.e., functional flexibility).

This approach to working hours differs from previous research in the field in several ways. The first major variation is the approach to the flexibilization of working hours. Beck's (1992, p. 142) definition, for example, is typical in the sense that it exclusively refers to part-time working hours (for example, Beck 1992, pp. 143, 147), the total number of hours individuals work over a week or lifetime (Beck 1992, p. 150) or flexitime work (Beck 1992, p. 147; 2000, pp. 79–80). This study goes beyond the examination of the number of work hours to focus on the often forgotten aspect of *when* these hours are worked. Knowing 'when' individuals work is essential since work calendars regulate many activities of our everyday lives and force individuals to divide and timetable their private family and leisure time around public employment time (Mills 2000a).

Previous research concerning the impact of irregular work shifts has focused on dual-earners, split-shift couples, child care (Presser 1986, 1998; Marshall 1998), and marital stability, generally within the context of the United States (Weiss & Liss 1988;

Hertz & Charlton 1989; White & Keith 1990; Wooddell *et al.* 1994). Less is known, however, about the impact of irregular shifts on the lives of singles or youth, and patterns in countries beyond the United States. Another shortcoming is that although the aforementioned studies often describe the characteristics of *who* works these shifts, we rarely gain any insight into *why* people work in these jobs. Youth are an important group to examine since recent labour market shifts are experienced directly by new entrants, who are unprotected by seniority or experience. Changes that first appear in the youth labour market may indicate tendencies that will soon work their way through the entire age structure (Myles *et al.* 1993). Youth are, as Furlong and Cartmel (1997, p. 2) contend, 'at the crossroads of the process of social reproduction'.

The Individualization of Risk in the Youth Labour Market

The individualization of risk is a central proposition of late modernity (Giddens 1990; Beck 1992). There are two sides to the individualization of risk thesis. One is that youth have more freedom to choose and increasingly demand the right to act. In other words, they want flexible jobs that match their lifestyle. Yet in the risk society, life planning is increasingly uncertain and unpredictable, and youth feel that risk is often only negotiable at the individual level (Giddens 1990; Mills 2000b). We will return to this more voluntaristic view in the discussion regarding the individual response to risk.

The other side of the individualization of risk thesis offers a top-down vision of temporal labour market flexibility, positioning it as a defensive strategy implemented by employers or the state. Beck argues that the flexibilization of work hours 'is being discovered and propagated as a *deus ex machina* for the organization' (1992, p. 145). Beck (2000, p. 3) maintains that '(f)lexibility means a redistribution of risks away from the state and economy towards the individual'. Firms are able to flexibly adjust the number of working hours to match their orders or demands and thus shift entrepreneurial risk to employees in the form of insecure and flexible underemployment. In this view, youth entering the labour market are faced with a barrage of precarious jobs and compelled to enter a secondary labour market.

The defensive strategy that shifts risk to individuals is related to the discussion of the globalization of markets and intensification of international market competition (Mills & Blossfeld forthcoming). One aspect of this is changes in laws, institutions or practices that make various transactions (commodities, labour, services, capital) easier or less expensive across national borders. Global formal agreements and organizations enact pressure on economies to enhance and improve their functioning of markets. This is coupled with the threat that capital and labour is increasingly mobile and that firms and national economies must continuously adjust to become internationally competitive. The result is the sentiment that economies (and the markets, states and firms within them) must grasp the ideologies of liberalization, privatization, and deregulation (O'Connor *et al.* 1999). The consequence is the

effective sanctioning of non-standard jobs and a bifurcation of the labour market (Beck 2000).

Multiple labour markets and the 'demand-side' mechanisms that determine the allocation of workers into particular jobs have been a central concern of labour market theorists and add necessary depth to Beck's assertions (Piore 1970; Doeringer & Piore 1971; Fine 1998). Dual labour market theory holds that the labour market is divided into primary and secondary levels, with jobs in the two markets having opposing characteristics (Piore 1970). Jobs in the primary market are characterized as more homogeneous with high wages, better working conditions, stability, upward mobility, equity and standard work regulations; whereas jobs in the secondary market are considerably more heterogeneous, yet still share certain common characteristics such as low pay, higher turnover rates, less stability, and little or no upward career mobility. The segmented labour market is based on the idea of internal labour markets and the assumption that employers intentionally set structural barriers that divide workers into core (employed in the internal labour markets) and periphery employees (Doeringer & Piore 1971). Whereas core workers have skills that are essential to the work or production process, periphery workers undertake more straightforward and expendable tasks. The internal labour market offers relatively good working conditions, career prospects, remuneration and protection. Returning to the individualization of risk thesis, periphery workers are Beck's (2000) 'underemployed'. Doeringer and Piore's (1971) description of the contrived structural barriers derived by employers to maintain a supply of renewable periphery workers is likewise reminiscent of the shift of risk to individuals.

The majority of the service sector jobs where irregular shifts exist are primarily periphery workers in a secondary labour market. Previous findings (for example, Marshall 1998; Presser 1998; Beers 2000) have shown that irregular shifts are concentrated in sectors that provide round-the-clock services, and are lower in those that dictate a fixed begin and end time (e.g., teachers, construction workers) or have rigid safety regulations (e.g., manufacturing, mining). Sectors with a large number of irregular shifts include emergency and protective services, eating and drinking establishments, entertainment, convenience services (e.g., banks, gas stations, retail outlets), transportation and hospitals.

The Canadian service sector is large and in 1997 provided 73 per cent of all Canadian employment (Little 1999, p. 2). The service industry is comprised of many periphery workers as it has the lowest level of unionization or protection from collective agreements, is largely part-time, and relies on student labour (Krahn 1991). In fact, over 89 per cent of part-time jobs in the overall Canadian economy are located within the service sector (Little 1999, p. 3). Yet it is important to acknowledge the heterogeneity of the service sector and the considerable polarization between 'good' and 'bad' jobs (Tilly 1996; Kalleberg *et al.* 2000; Lowe & Krahn 2000). Bad jobs are often concentrated in the two lower-tier or 'secondary' service industries of retail trade and other consumer services such as food and beverages (Krahn 1991). These are the 'McJobs' for periphery workers that have lower skill demands and equally low wages, hours, prestige, benefits and future prospects

(Akyeampong 1997). Nevertheless, not all service jobs and employment with irregular shifts are bad jobs by default.

There are also relatively good service jobs for core workers that demand higher skills, provide higher wages, better hours and employer-sponsored benefits (e.g., pension, health and dental plans, leave). With the aging population's necessity for round-the-clock medical services, health and social service workers are increasingly in demand. These jobs are comparatively good as they are often located in the public sector, which frequently translates into an internal labour market of core workers with better working conditions, benefits and protection. Although many of these jobs have irregular hours, it is often in the form of a rotating shift (see Table 1). This type of shift is generally scheduled in advance, providing the worker with more certainty in personal planning. It is therefore likely that a hierarchy within irregular shifts exists, leading to a *type of shift hypothesis*. Here we can anticipate that individuals in rotating shifts will be core workers with comparatively better jobs (measured by public or private sector and benefits), with the remainder of workers with irregular work times making up the periphery workforce

The Context of Risk: Youth Entering the Canadian Labour Market in the 1990s

It is not merely the macro-level supply forces that are important in determining youths' participation in non-standard employment; rather, it is how these changes are 'institutionally filtered' at the national level (Esping-Andersen 1993). Institutional filters that are pertinent for youth entering the labour market consist of the education system and financing, the level of women's participation in the labour market, economic cycles, employment relations and welfare regime (Mills & Blossfeld forthcoming).

The Canadian education system has been characterized as 'organizational space', where education is general and specific occupational skills are learned on-the-job (Shavit & Müller 1998). It is also an unstratified system, where children are not tracked into a certain academic or vocational stream at a young age such as in Germany or The Netherlands (Allmendinger 1989). Although this system provides more students with the opportunity to continue to post-secondary education, they are less prepared to enter the work force and more likely to experience a protracted early job search, holding less-favourable 'stop-gap' jobs until they find an appropriate match (Oppenheimer & Kalmijn 1995).

Another relevant aspect of the Canadian education system is that students must finance their own post-secondary education. In 1990, 50 per cent of university students took out personal loans to support their studies (Zhao 2000). This financial burden is coupled with the fact that, in the 1990s, Canadian educational institutions experienced a cut in transfer payments, spurring an extraordinary rise in post-secondary tuition fees. In fact, between 1989–90 and 1998–99, tuition fees doubled (Zhao 2000). Canadian youth are thus left in the contradictory situation of needing to obtain more skills in order to secure a good job, but having to shoulder the financial risk to do so by taking out a personal loan or first becoming a periphery

worker. To avoid excessive loans, an increasingly common option is to combine school and work. Akyeampong (1997, p. 49) has shown that, for Canadian youth, 'the need to balance work and school plays a crucial role in the decisions of young students'. In fact, the labour force participation rate for full-time students rose from 29 per cent in 1976 to around 40 per cent in the 1990s (Statistics Canada 2001). Therefore, there is a labour market supply of students who must work and require flexible hours that can be combined with their studies. For this reason, the types of work shifts at labour market entry in the empirical analysis are examined separately for students and non-students.

The large number of women in the labour market and the prominence of the dual-earner family model in Canada also have implications for irregular work schedules. In 1994, for example, the percentage of the female population aged 15–64 that participated in the labour market was 67.8 per cent (OECD 1996, in O'Connor *et al.* 1999, p. 68). As more women are employed during the day, the demand for evening and weekend services increases. The former shopping and household maintenance of housewives becomes the second workday for couples. A 'self-servicing' economy is also created where material household commodities are increasingly purchased. Families eat out or outsource household duties, which translates into more jobs in the personal services such as dining, shopping and entertainment. These jobs generally have irregular shifts, but also a higher proportion of female employees. Furthermore, since household and childcare responsibilities are often shared among family members, women entering the labour market are more likely to accept work schedules that accommodate others (Presser 1986, 1995; Hamermesh 1996). Based on these factors, a *gender hypothesis* leads to the anticipation that women will have a higher probability of being in jobs with irregular work shifts than men.

Another aspect of the Canadian context is that the economic cycles between 1993 and 1998 probably influenced the type of jobs youth were able to obtain. Labour market conditions deteriorated during the early to mid-1990s when there was an economic recession. In 1994, strong job growth began, followed by a tough labour market year in 1995 and better conditions from 1996 onwards. During both recessions, the unemployment rate for 15–24 year olds rose to around 20 per cent (Lowe & Krahn 2000, p. 2). The response of many young adults to high unemployment was opting for more education (Lowe & Krahn 2000). An *economic cycle hypothesis* is therefore introduced with the expectation that youth are more likely to be in irregular shifts during difficult economic years (1993 and 1995), and are furthermore more likely to do so for involuntary reasons.

The distinct history and character of employment relations and protective legislation are also essential in understanding youth's ability to choose a particular job. The Canadian system has progressively developed into what DiPrete *et al.* (1997) would classify as an 'individualist' employment regime. Consistent with the individualization of risk thesis, risk has been shifted almost entirely to the individual and the shielding of workers (via employment-sustaining or welfare-sustaining labour market policies) is at minimum. In individualist regimes, market mechanisms prevail

and it is a combination of youth's individual human capital resources and their structural location that are important. Canadian labour market policies have a history of passivity, with measures such as unemployment insurance, as opposed to more active labour market training programmes. Canadian unions have a weak and long-standing history of disunity and were often American dominated (van den Berg *et al.* 1997). This context affords the ability to hire and fire workers, demand irregular schedules, give lower levels of compensation and less protection or recourse to workers. This result is a surge in various forms of non-standard work, including not only irregular schedules, but also part-time and temporary jobs (Krahn 1991).

Another relevant contextual factor is the welfare safety net provided for youth during early job searches. If youth only have the option to be 'underemployed' periphery workers they may return to school or opt for unemployment, the latter only being an attractive option when sufficient benefits allow them to do so. The Canadian welfare state is characterized as 'liberal', similar to the United States as it is a comparatively low spender relying on means-tested (residual) forms of welfare and private insurance (Esping-Andersen 1990; Myles 1996). In addition to recent shifts in discourse epitomized by the renaming of 'Unemployment' to 'Employment' Insurance, the 1990s also brought significant changes to the eligibility and level of unemployment benefits (Guest 1997). Employment Insurance provides short-term protection for workers who have recently held a job and are available for work. Unemployed youth who have never held a job are thus without unemployment insurance coverage, and need to turn to lower forms of social assistance. Towards the end of the 1990s, most provinces significantly reduced social assistance benefits and turned to American-style 'workfare' programmes and a negative income tax-style income-tested benefit system (O'Connor *et al.* 1999). The institutional context of personally funded post-secondary education, minimal employment protection and a withering social safety net suggests that Canadian youth in the 1990s indeed experienced a high individualization of risk.

The Response to Risk: New Inequalities and Insecurities?

Although demand factors and the institutional context filter youths' early labour market experiences, depending on their individual facility or power to act, they are able to purposively shape their lives. These aspects are discussed in relation to human capital and whether irregular work hours generate new inequalities and insecurities.

Certain youth have better prospects for a stable and successful labour market career than others, which can be measured by human capital (Becker 1975). The human capital approach focuses on the supply-side of the labour market, and more specifically on the skills or attributes of the workers (Becker 1975). According to this theory, the employer and the employee are interested in maximizing their benefits when they enter a particular employment relationship. This means that the employee seeks the best job (demonstrated by earnings, benefits, hours, etc.) and the employer seeks workers with the highest performance. One way that the employer can

approximate potential worker productivity is to consider the investments that a worker has made to increase her/his human capital. Skill acquisition via investment in formal education is such an investment (Fine 1998). Measures that increase human capital may also be 'in-market' investments that occur while the individual was employed and could therefore include a gain in labour force experience (Tam 1997). A *human capital hypothesis* therefore anticipates that youth with lower human capital (operationalized by educational attainment) will have less bargaining power in the labour market and thus be more prone to working irregular shifts. Human capital is furthermore expected to increase with 'in market' labour force experience and age [2].

Recall that a cornerstone of Beck's (1992) work is that new types of precarious work will generate 'new inequalities and new insecurities'. Beck maintains that 'insecurity prevails in nearly all positions of society' (2000, p. 4), that we have entered a 'post-class society', and that 'for the majority of people, even in the apparently prosperous middle layers, their basic existence and lifeworld will be marked by endemic insecurity' (2000, p.3). The demise of social class as a useful predictive category and the equality of insecurity across social groups are revolutionary predictions that overturn previous stratification and social inequality research. To empirically test this claim, an *inequality hypothesis* is therefore introduced to test whether irregular work schedules have affected all youth and layers of society or whether established inequality structures persevere. The conventional inequality categories included in this study are gender (discussed in the previous gender hypothesis), minority status, and social class.

Minority status is particularly important in the Canadian context considering that the proportion of visible minorities was expected to rise to 17.7 per cent in 2001, and that there is little known about their work schedules (Jamal & Badawi 1995). In a comparison of evening and weekend work in the United States and Germany, Hamermesh (1996) found that minorities in the United States and foreign-born Germans were disproportionately represented in these shifts. If Beck is correct, visible minorities should be just as likely to work in jobs with irregular shifts.

According to Beck (1992), standard structures such as social class have less influence on individuals and no longer serve as a useful concept to predict individual behaviour (see also Furlong & Cartmel 1997; Andres *et al.* 1999). Beck (1992, 2000) argues that we are now experiencing the transition to an individualized society of employees, or a 'post-class society', which is defined in terms of labour laws and socio-political categories, as opposed to the class society, which was delineated by tradition and culture. Due to the loss of traditional support networks, youth must develop and rely on their own individual labour market fate. If Beck's theory holds, the impact of insecurity in the form of irregular work shifts should be equal across all occupational classes. Yet previous research has found that a large number of irregular shifts are service jobs in the secondary labour market that require semi-skilled or unskilled workers (Presser & Cox 1997; Beers 2000). This inequality subhypothesis anticipates that occupational class will persist as a useful concept. Specifically, that there will be a higher probability that workers who hold irregular

shifts are in semi-skilled and unskilled occupations, particularly manual ones. Occupational class is defined by using the Erikson and Goldthorpe (1992) schema with one exception (see Bernardi 2000). Semi-skilled and unskilled workers are divided into manual and non-manual categories to capture the disparate early labour market experiences of these groups, which yields the following classification: (1) Service Class (I–II), (2) Routine Non-manual (III), (3) Skilled Workers (V–VI), (4) Semi-skilled and Unskilled Manual (VIIb), and (5) Semi-skilled and Unskilled Non-Manual (VIIIb) [3].

When discussing occupational class and irregular work hours, we cannot omit the potential impact that recent technological advance, specifically information and communication technologies (ICTs), have had on the nature and organization of work. Beck (1992, p. 142) argues that we are witnessing a new 'invisible organization of the firm' as firms are increasingly linked electronically and work is organized independent of geography. ICTs such as computers, faxes and the internet have radically altered working hours, meaning that the worker is able to be on call or be reachable 24 hours a day. This, combined with the growth in multinational corporations, increases the demand that branch offices operate at the same time as corporate headquarters (Presser 1998). If youth in higher-level clerical and managerial staff are increasingly prone to work irregular shifts (albeit for different reasons than their lower-skilled counterparts), partial support will be provided for Beck's more pervasive inequality standpoint.

Although the exploration of whether inequality structures persist and the description of *who* holds irregular shifts is an important topic in itself, perhaps a more discerning question that is rarely addressed in previous research is *why* individuals are working in these positions. Do youth demand flexible schedules to match their lifestyle or are they forced into becoming periphery workers? A *flexibility–insecurity hypothesis* is introduced to gauge the level of voluntarism in these jobs. The flexibility side of this hypothesis acknowledges that we are dealing with purposive actors, some of whom may have chosen to work irregular shifts. Using this perspective, individuals are not only pawns of the labour market, but are actors that may shape it. In their song *The Graveyard Shift*, the Canadian band NoMeansNo (2000) reflects the flexibility argument: 'I like the graveyard shift. It's quiet, I can read all night. I don't mind wearing a uniform. I don't mind walking in the dark.' If the flexibility position holds, youth 'won't mind' and will voluntarily welcome irregular work hours. These types of shifts may afford them with the opportunity to combine multiple careers such as work with school and family or care-giving responsibilities.

In this study, voluntary reasons for working irregular shifts are: 'caring for own children', 'caring for elder relative(s)', 'other personal or family responsibilities', 'going to school', 'to earn more money', 'own illness or disability', and 'other'. Involuntary workers are defined as those who responded 'requirement of the job/no choice' and 'could only find this type of work'. This classification may be somewhat contentious. However, to better operationalize the individualization of risk thesis, 'involuntary' was classified as any motive that was perceived to be unreservedly external to the individual's power and driven by macro-level factors. Thus, 'volun-

tary' includes care-giving responsibilities and education to test whether these jobs enable the flexible combination of multiple life course careers.

The insecurity side of this hypothesis tests whether youth are faced with 'new insecurities' during the process of the individualization of risk. If risk has indeed been shifted to youth, they should have higher odds to be involuntary periphery workers with irregular hours. This involuntary inability to find a better job, feeling of no choice, or circumstances that force them to work irregular hours is in turn expected to generate insecurity (see also Standing 1997). To give Beck's theorization of 'new insecurities' more tangible, empirical grounding, the level of an individual's insecurity when working different types of work shifts is characterized along a continuum, which is summarized in Figure 1. Three types of insecurity are defined: economic, employment relation, and social integration. Economic insecurity is operationalized by the calibre of precariousness of an individual's: (a) educational enrolment status, (b) occupational class, and (c) whether they receive pension benefits. An *economic insecurity hypothesis* maintains that irregular shifts will be concentrated in positions with higher economic insecurity, thus comprising students and/or those working in economically precarious positions (no pension benefits, lower occupational class) [4].

The second dimension is employment relationship insecurity, which is measured by: (a) work hours (full-time or part-time), and (b) whether dependent workers are in public or private sector employment [5]. Work hours can also be a proxy for economic insecurity, as part-time workers often earn lower wages (Kalleberg *et al.* 2000). It is classified here due to the fact that part-time workers are a primary example of periphery workers, with a weaker attachment to their employer, and cannot often assume that their employment will continue (see Kalleberg *et al.* 2000). The sector of employment is a key factor in determining how individuals are sheltered from risk, with those employed in the public sector relatively isolated from the operation of market forces (Esping-Andersen 1993). Although employment in the public sector is no longer the bastion of security in the 1990s as it had been previously, due to higher worker protection (e.g., unionization, collective agreements), it is a relatively secure employment option in Canada. Using the Canadian Survey of Work Arrangements, Marshall (1998) showed a lower incidence of shift work among public employees. The *employment relation insecurity hypothesis* thus presumes that private sector and part-time workers have less secure employment conditions than their public or full-time counterparts, which is represented by their higher likelihood to be in an irregular shift.

A final type of insecurity is social integration, which is defined as the mismatch with structured and unstructured social relations that arise as a result of irregular work times (Hamermesh 1999). Work shifts are measured by comparing (1) split, irregular, on call, (2) graveyard and evening, and (3) rotating shifts against the more secure (control) schedule of (4) a regular daytime shift. The shifts are arranged in Figure 1 according the level of insecurity they probably generate, which also reflects expectations generated in the type of shift hypothesis discussed previously. When working irregular shifts, the individual is at risk of becoming out of sync with the

TYPE AND LEVEL OF INSECURITY	LOW INSECURITY				HIGH INSECURITY
ECONOMIC					
Student status	non-student				student
Occupational class	service class	routine non-manual	skilled	unskilled non-manual	unskilled manual
Pension benefits	receive benefits				no benefits
EMPLOYMENT RELATION					
Sector	public sector				private sector
Work hours	full-time				part-time
SOCIAL INTEGRATION					
Type of work shift	regular daytime shift		rotating shift	graveyard, evening shifts	split, irregular, on call shifts

Figure 1 The continuum of insecurity.

rhythms of society. It is difficult to join or use structured associations such as day care, clubs, community groups and schools that require either fixed time commitments or are available only during the day (Presser 1995). When people engage in work at different times of the day, the opportunities for social interaction are also greatly reduced. Unstructured social relations may become strained as it becomes more difficult to maintain relationships with friends, relatives and partners (Jamal & Badawi 1995; Johnson 1997). At the individual level, persons may experience biological (sleep disturbance, digestion) or psychological (stress, fatigue, depression, irascibility) problems. The *social integration hypothesis* proposes that, compared with those working in regular day shifts, irregular shift workers will experience more social integration conflicts. The insecurity generated by this type of work cannot, however, be directly tested in these empirical models and serves rather as a further theoretical supposition. Exploration of this hypothesis is an appropriate topic for further research with the development of social integration indicators such as the ability for youth to find and/or maintain a partnership, and frequency of contact with family or social network.

Data and Methods

The empirical analysis uses the first panel of the Survey of Labour and Income Dynamics (SLID), which covers the six-year period from 1993 to 1998. The SLID includes men and women aged 16 and over living in the 10 provinces, excluding those who are residents of institutions, living on Native Reserves or full-time members of the Canadian Armed Forces living in barracks. The entire sample contains approximately 15,000 households with 31,000 individuals (Statistics Canada 1997). Since this study examines youth, the sample size was limited to include only those aged 16–35 and further reduced in the models due to missing values and variable constraints (see Tables 2 and 3). The upper age limit of youth was extended to 35 due to the increased postponement of the transition to adulthood (i.e., finishing education, entering the labour market, family formation) (Liefbroer 1999).

Several models are estimated. Readers requiring the mathematical specification of these models can refer to standard references (for example, Agresti 1990; Allison 1984; Blossfeld & Rohwer 1995). Although temporal information on retrospective job histories is available, only current job characteristics from 1993 to 1998 were collected. Thus, in order to accommodate time-varying covariates, the sample includes those who entered the labour market for the first time from 1993 to 1998. Since the focus of this paper is irregular work schedules, in order to be considered in the analysis the person must have held at least one job during the panel year. This means that those out of the labour force or unemployed for the entire observation period are automatically excluded from the analysis. A further restriction is that youth's first job was three months or longer, where the primary work was non-agricultural. A job is defined as the period during which a worker is continuously attached to an employer, which means that the worker may be either working or absent but expecting to resume work. If there

Table 2 Multinomial logistic regression of type of work shift, of first job in youths aged 16–35, by student status: Canada, 1993–98

	Exp(B): Odds Ratio of Type of Work shift					
	Split, on call, irregular shift		Rotating shift		Evening, graveyard shift	
	Student status		Student status		Student status	
	non-students	students	non-students	students	non-students	students
Age	0.918	1.164*	1.132*	1.232**	1.002	1.104
Age-squared	1.001	0.997*	0.998**	0.996**	1.000	0.998
Labour force experience	0.991***	0.984***	0.991***	0.982***	0.981***	0.979***
Work hours						
Full-time	0.184***	0.142***	0.708***	0.517**	0.265***	0.225***
Part-time	1	1	1	1	1	1
Occupational class						
Service Class	0.401***	0.405***	0.094***	0.070***	0.146***	0.129***
Routine Non-manual	0.794**	0.636***	0.451***	0.321***	0.528***	0.446***
Skilled	0.580***	0.620***	0.573***	0.624***	0.397***	0.598***
Semi-skilled/Unskilled Manual	1.277***	1.319**	1.100	0.978	1.504***	1.465***
Semi-skilled/Unskilled Non-manual	1	1	1	1	1	1
Pension benefits						
Yes	0.677***	0.683***	2.310***	2.744***	0.928	0.915
No	1	1	1	1	1	1
Sector						
Public	0.751***	0.824*	0.698***	0.705***	0.578***	0.837
Private sector	1	1	1	1	1	1
Highest education						
< High school	0.756**	1.363*	1.037	1.549**	1.035	1.051
Graduated high school	0.733***	1.205	0.941	1.402**	1.035	0.885
Non-University certificate	0.781***	1.049	1.003	1.249	0.983	0.916
University certificate, diploma	1	1	1	1	1	1
Educational enrollment						
Full-time student	–	0.941	–	1.016	–	1.105
Part-time student	–	1	–	1	–	1
Time period						
1993	0.912	0.788*	0.954	0.915	0.827	0.810
1994	0.787**	0.804	0.967	1.040	1.069	0.736*
1995	0.747**	0.957	0.959	0.928	0.894	0.804
1996	0.963	0.992	0.925	0.917	0.973	0.925
1997	0.953	1.042	0.996	0.815	0.979	0.879
1998	1	1	1	1	1	1
Visible minority						
Yes	1.001	1.009	0.882	0.865	1.411**	1.674***
No	1	1	1	1	1	1
Sex						
Men	0.778***	0.979	0.972	1.015	0.827**	0.980
Women	1	1	1	1	1	1
Constant	5.882*	0.260	0.063***	0.034***	0.634*	0.215
–2 Log-likelihood (null model)	Non-students: 35301.37 Students: 20508.14					
–2 Log-likelihood (final model)	Non-students: 31718.96 Students: 17430.14					
N	2215	1578	2477	1323	1180	831

Notes: Final model results shown only. Reference category for type of work schedule is regular daytime shift ($n = 13{,}455$ for non-students and $n = 6843$ for students). With the exception of sex and visible minority status, all variables are time-varying.
*** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$.
Source: Survey of Labour and Income Dynamics, 1993–98.

Table 3 Logistic regression of involuntary nature of shift, of first job in youths aged 16–35, by student status: Canada, 1993–98

	Exp(B): Odds Ratio of Whether Irregular Shift is Involuntary	
Work hours		
Full-time	6.887***	7.775***
Part-time	1	1
Highest education		
< High school	1.204	1.091
Graduated high school	1.196	1.109
Non-university certificate	0.996	1.653***
University certificate, diploma	1	1
Educational enrollment		
Full-time student	–	1.772***
Part-time student	–	1
Age	1.298**	0.951
Age-squared	0.995**	1.001
Visible minority		
Yes	0.571**	0.523***
No	1	1
Sex		
Men	0.990	1.050
Women	1	1
Occupational class		
Service Class	1.101	1.140
Routine Non-manual	0.893	1.206
Skilled	0.806	0.973
Semi-skilled/Unskilled manual	0.955	0.832
Semi-skilled/Unskilled non-manual	1	1
Time period		
1993	0.774	1.137
1994	1.352	1.443**
1995	1.333	1.718***
1996	1.058	1.166
1997	0.964	1.265**
1998	1	1
Constant	0.970	0.685
–2 Log-likelihood (null: 4276.05 and 6178.03)	4233.33	6011.62
N	5679	5293

Notes: Results shown for final model only. Reference category for 'whether irregular shift is involuntary' is those who reported to work these types of shifts for voluntary reasons. This question was asked only of those who work irregular and on-call shifts.
*** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$.
Source: Survey of Labour and Income Dynamics, 1993–98.

is more than one work schedule in the reference year, the information pertains to the most recent schedule.

A majority of covariates have already been described in connection to pertinent research hypotheses. A summary includes age and age squared, labour force experience (as measured by time of entry into labour force), work hours (full-time or

part-time), occupational class (Erikson and Goldthorpe classification), pension benefits, sector (public or private), highest completed educational level, time period, visible minority status, sex and, for students, educational enrolment status (full-time or part-time).

Two regression analyses were conducted. The first multinomial logistic model estimates the type of work shift at labour market entry as the dependent variable, using regular daytime shifts as the control category and controlling for selected variables. Whether the individual is a (non-)student is controlled for by estimating the models separately for each group, and for students by controlling for whether students attended full-time or part-time. The second binary logistic model estimates whether highly precarious shifts are taken on an involuntary basis (with voluntary reasons as control), once again run separately for students and non-students and controlling for pertinent variables [6]. A series of stepwise models were estimated for each analysis, with only final models shown here for ease of comparison and space restrictions.

Results

Table 2 contains findings for the final models of entry into the labour market by type of work shift, with Table 3 presenting the final model results illustrating which groups of youth work precarious shifts for involuntary reasons. The discussion is organized in relation to significant findings regarding the six major hypotheses: type of shift, gender, economic cycle, human capital, inequality and flexibility–insecurity.

Table 2 estimates show the odds of working in a particular type of irregular shift in comparison with the control category of a regular daytime shift, which is further divided by whether youth are students or non-students. In support of the *type of shift hypothesis*, an interesting division emerges particularly when we examine the estimates by pension benefits and age. It is clear that although 'split, on call, irregular' and 'evening and graveyard shift' workers are less likely to receive pension benefits than those who work regular day shifts (highly significantly so for the first category), this is not the case for rotating shifts. They appear to be core workers in an internal labour market that are even significantly more likely to have pension benefits than those in daytime shifts. Further analysis (not shown here) isolated that these were largely public sector workers, often in the health services. The probability of having a rotating shift also increases significantly with age (and likely seniority). These results confirm a hierarchy of good and bad jobs within irregular schedules themselves.

Referring once again to Table 2, we see that gender inequalities emerge, but with one surprising twist on the *gender hypothesis*. Female non-students are significantly more likely to work 'split, on call, irregular' and 'evening or graveyard' shifts, supporting the existing gender hypothesis. The fact that this effect is only significant for non-students forces us to redefine the gender hypothesis into a dynamic one. Gender inequalities appear to exist to a lesser extent between the sexes while they are students (i.e., both men and women have similar odds of working irregular shifts),

and are enhanced only after youth have left education. Further research could examine other influences that enhance gender inequality beyond leaving the education system, such as entering a partnership or parenthood.

To validate the *economic cycle hypothesis*, results from both Tables 2 and 3 are drawn upon. Recall that the first expectation was that more youth would work irregular shifts for involuntary reasons when the labour market was tight (1993 and 1995). In general, there is no distinct pattern in the type of work schedule over time. This finding is probably attributed to a real stability in the odds of working an irregular shift, but may also be a methodological restriction of such a short time period of examination. However, in partial support of the second expectation of this hypothesis, we see that, compared with 1998, students were significantly more likely to work these shifts for involuntary reasons in 1994–95 and 1997 (Table 3).

Referring again to Table 2, we find support for the *human capital hypothesis* that youth with lower education would have less bargaining power in the labour market. In general, those with lower education are more likely to hold irregular shifts. One exception, however, are non-students who are working 'split, on call, and irregular shifts'. These individuals are significantly more likely to be university graduates. After further investigation, it appears that this category is also heterogeneous. It consists of those working 'on call' or 'split' shifts such as those in the medical or veterinary professions, which are generally core workers in the relatively 'good' service jobs but periphery non-manual workers with 'irregular' shifts. 'In market' experience also appears to benefit youth. Those with less labour force experience are significantly more likely to work in all types of irregular schedules, a finding that confirms previous research by Marshall (1998).

The goal of the *inequality hypothesis* was to test the validity of Beck's assumption that the inequality of precarious work would affect all youth and layers of a society equally using gender, minority status and occupational class. The previously reported gender findings show mixed support for Beck's thesis, with students having general equality and standard patterns of gender inequality existing only among non-students. Being a member of a visible minority group remains as a constant factor that defines inequality, with visible minority youth being less likely to work in the comparatively 'good' rotating shifts, and significantly more likely to be employed in 'evening or graveyard shifts', regardless of educational enrolment. The descriptive results in Figure 2 emphasize the finding that occupational class still serves as a useful predictive category. Irregular shifts, particularly 'split, on call or irregular', are highly concentrated in the semi-skilled and unskilled occupations (particularly manual), consisting of around 50 per cent of these workers. The results of the regression analysis in Table 2 confirm that those in semi-skilled and unskilled manual occupations are significantly more likely to be employed in irregular shifts, supporting the expectation that these shifts are generally concentrated in the 'bad' unskilled jobs of the service sector. A further expectation contended that, with the introduction of new ICTs, temporal flexibility would begin to impact the previously shielded higher-level classes. Figure 2 provides only weak support for this hypothesis, since roughly 30 per cent of non-manual workers are in irregular shifts, a proportion

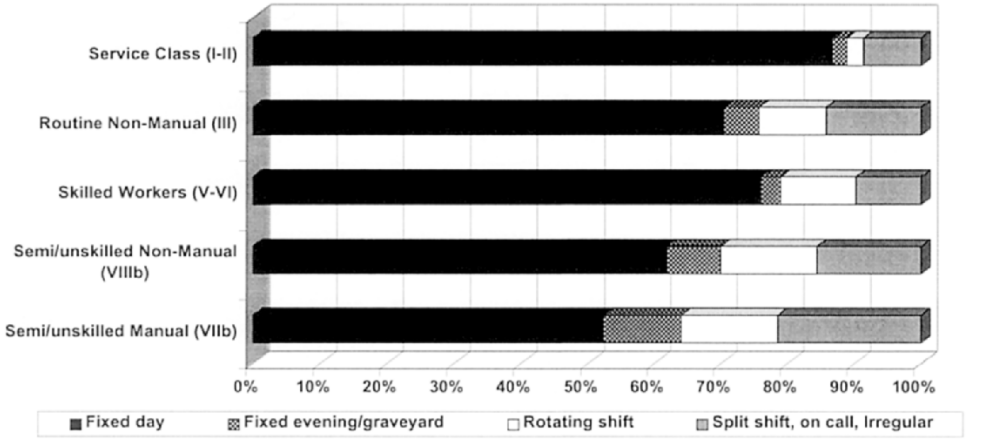

Figure 2 Per cent distribution in occupational groups by employment schedule, age group 15–35, 1993, Canada.

even higher than for skilled workers. The regression analysis in Table 2, however, does not add any significant support for this hypothesis. The visible minority, occupational class and to some extent gender findings refute Beck's (1992) claim that these precarious jobs (at least in the form of irregular work hours) generate new inequalities.

The final *flexibility–insecurity hypothesis* and the three insecurity subhypotheses test Beck's (1992) suggestion that non-standard jobs will result in new insecurities. The flexibility side of this hypothesis added the consideration that youth may demand these types of flexible jobs. Insecurity would arise if workers were involuntarily forced to work non-standard hours. Initial descriptive results show that the majority of youth who are working these irregular shifts do so against their own will. For example, in 1993, for youths aged 16–35, 64 per cent were working irregular shifts for involuntary reasons (requirement of job/no choice, could only find this type of work) and 36 per cent were doing so voluntarily. Yet the majority of these 'voluntary workers' (30 per cent) stated the reason for working irregular shifts was to combine school and work (i.e., 'going to school') (SLID Microdata). These findings coincide with Akyeampong (1997) who, using another Canadian data source, found that that between 1991 and 1995 the percentage of those who worked irregular shifts for involuntary reasons rose from 69 to 78 per cent, with 71 per cent of students working these shifts to accommodate educational demands.

The classification of combining work and school as 'voluntary' remains contentious considering the previous discussion of high tuition fees and student loans. The ironic aspect is that it is the flexibility of jobs with irregular hours that help students finance their education in the Canadian system. In other words, job with irregular work times are a 'necessary evil' for youth. It seems likely that many students are obligated to work irregular hours in order to continue post-secondary education and

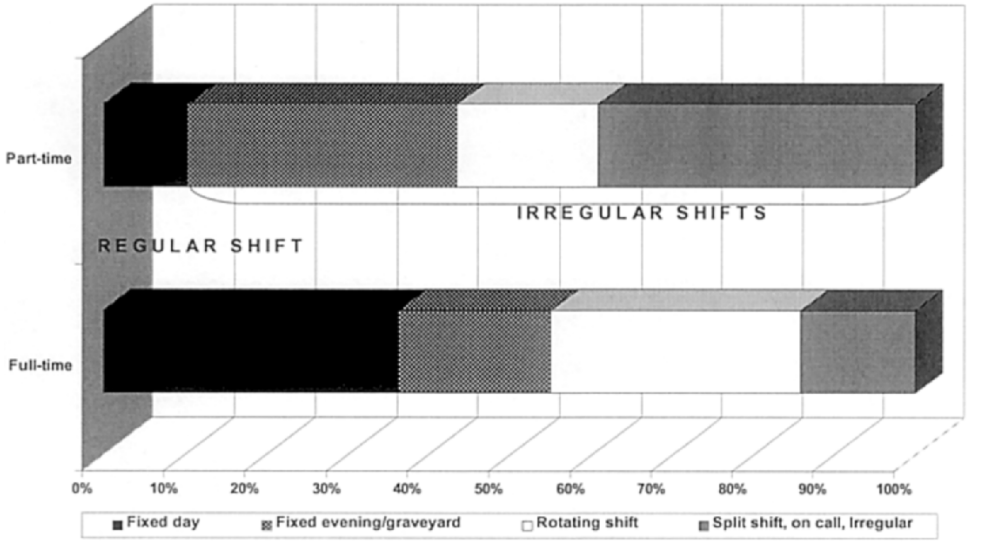

Figure 3 Per cent distribution of employment schedules by whether job was full-time or part-time, age group 15–35, 1993, Canada.

obtain the necessary skills to secure a good job. For the majority, this type of work is not a personal preference, but for one-third of students combining school and work it appears to be adaptive strategic behaviour to meet a future labour market goal.

Recall that the economic insecurity hypothesis held that irregular shifts are concentrated in economically precarious positions (students, no pension benefits, lower occupational class). As discussed previously, with the exception of rotating shifts, those in irregular shifts are less likely to receive pension benefits, a finding that is significant for most non-standard shifts (Table 2). Likewise, semi-skilled and unskilled manual workers are more likely to work irregular times. Full-time students are also more prone to irregular shifts, with the exception of evening or graveyard shifts. However, this is logical since it would create a conflict with daytime schedules. The employment relation insecurity hypothesis is also upheld with those in the public sector being significantly less likely to work irregular shifts, confirming that private sector workers are less protected from the deterioration of employment security. As expected, those who work part-time are significantly more likely to be employed in all types of irregular work shifts. Figure 3 enhances this finding by showing the distribution of employment schedules by full or part-time employment. In fact, between 1993 and 1994, over 90 per cent of part-time jobs had irregular shifts (SLID Microdata). Although social integration insecurity was not directly tested here, it is clear that a large number of Canadian youth were in these irregular shifts. We can extrapolate the social integration impact from a plethora of studies that have shown how irregular shifts lead to heightened conflict between work and

family (for example, Weiss & Liss 1988; Hertz & Charlton 1989). For youth, they may have consequences for finding or maintaining a partnership and postponement of parenthood. In the work domain, irregular schedules may lead to higher job turnover and lower commitment, satisfaction, performance, safety and fewer chances for 'schmoozing' (Hamermesh 1999). They may also have consequences for educational performance and completion, topics that would be interesting to explore in future research. In summary, insecurity appears to be a prevailing factor for a majority of Canadian youth in the 1990s, providing some support to this aspect of Beck's (1992) thesis. Whether these factors are entirely *novel* insecurities for youth entering the labour market, however, remains questionable.

The results in Table 3 provide a more detailed insight into which groups of youth feel forced into these irregular work times. It is evident that, in comparison with part-time workers, youth who work full-time irregular shifts are clearly and significantly doing so against their will. Full-time students are almost 80 per cent more likely to work an irregular shift against their will, reinforcing the impression that Canadian youth are compelled to combine school and work. Further evidence is the significantly higher probability of students working irregular schedules against their will in the mid-1990s. Although those in the higher occupational classes who work highly precarious shifts are more likely to do so for involuntary reasons, the finding is not significant. The fact that visible minorities are significantly less likely to work highly irregular shifts for involuntary reasons is in need of further exploration. This may be related to a selection effect due to the fact that this question includes only those in highly irregular shifts, differences in reporting, or is a genuine result. We can conclude that the majority of Canadian youth view non-standard employment schedules as a constraint imposed by the employer and labour market demands, rather than as a strategic choice for flexibility. Since they face higher insecurity and feel forced to work in these jobs, the notion that (perceptions and actual levels of) risk is increasingly individualized is supported.

Conclusion

Canadian youth entering the labour market in the 1990s shouldered much insecurity. They were increasingly required to obtain skills, yet asked to pay for them in an expensive and personally financed post-secondary educational system. Many opted to combine education with irregular work hours, with the majority feeling involuntarily forced to do so as opposed to desiring this flexible combination of life course careers. With a deteriorating safety net, unemployment likewise became less of an attractive option. Many youth thus entered this individualist employment regime (DiPrete *et al.* 1997) that provided little protection and effectively sanctioned precarious non-standard jobs, such as temporal labour market flexibility in the form of irregular hours.

A central result is that the majority of Canadian youth view irregular work schedules as a constraint imposed upon them by the employer, providing support for the individualization of risk thesis. Irregular shifts are clearly not only a strategic

choice made by the individual to obtain flexibility, particularly for non-students. The ability for youth to make life course decisions and choose a particular work shift is related to their human capital, with higher completed education providing some protection. Another important finding is that those who hold irregular work schedules have higher economic, employment relation and social integration insecurity. Less economic security is evident in the concentration of these jobs in lower occupational classes and jobs without pension benefits. Lower employment relation security emerges with the high number of part-time and private sector workers in all types of irregular shifts.

Although Beck's (1992) thesis of the individualization of risk and the shouldering of insecurities is largely supported, the expectation that these precarious jobs will create a new inequality structure or post-class society was not. Another conclusion is that although Beck's framework of the individualization of risk served as a useful starting point to examine youth and irregular work shifts, several contentious issues arose. The first concern is that Beck's (1992, 2000) work (and those who use it) often focus on the more negative top-vision of labour market flexibility and risk as a defensive strategy from employers or the state upon individuals. The individual is often depicted as a 'homo sociologicus' with little or no means of agency. This fosters an implicit bias that only labour is adaptable and versatile. The flexibility–insecurity thesis proposed in this study emphasized the less often depicted voluntaristic approach to labour market flexibility, to test whether risk or flexibility is also something that is demanded by certain individuals.

A second issue is that the claim that we have reached a 'post-class' society or that new inequalities have emerged appears to be empirically tenable. As Furlong and Cartmel (1997) have previously asserted, this study also found that life chances and experiences of youth are still firmly embedded and thus can be predicted by an individual's location in the social structure (see also DiPrete *et al.* 1997; Andres *et al.* 1999). This clash is what Furlong and Cartmel (1997) term the 'epistemological fallacy of modernity', where they argue that youth's life chances actually do remain highly structured, but that youth increasingly seek solutions at the individual, as opposed to the collective level. A contributing factor for this problem may be related to the fact that Beck often extrapolates his theory to all modern industrial societies, but actually builds and elaborates the concepts specifically in relation to German society.

Finally, and perhaps most importantly, this study does not immediately accept the proposed elements of the risk society and the individualization of risk to be true. Rather, they are viewed as something that should be tested and open for empirical examination. This experimental application of several aspects of the theory is an attempt to go beyond the polemic arguments of risk and insecurity to engage in a more tangible empirical examination. Although the work of Beck and other contempory theorists such as Giddens and Lash provide a general heuristic of risk, there is often little effort to consider the validity of their theories. The appeal of their work lies more in its polemic function than in the extent that it offers a clearer conception of social reality. The darker side of this theoretical work of the risk society is that it

may be misleading and overstated to the extent that the true reality of risk is masked in unsubstantiated polemical abstractions.

Since irregular work schedules appear to be the present reality for Canadian youth, we must ask whether there are broader consequences of this trend for youth and social life in general. One implication is that heightened levels of insecurity may be causing the current demographic trend in the postponement of life events (e.g., partnering, parenthood) in the transition to adulthood witnessed across many industrialized probably seeps into other realms of their lives, making long-term binding decisions such as buying a house, forming a partnership (particularly marriage) or family increasingly difficult (Liefbroer 1999; Mills 2000b). Another consequence is that this shift to precarious jobs will result in a 'new service proletariat' or post-industrial underclass that has inferior life chances. An alternate argument is that these insecure jobs are simply a life-cycle phase of 'stop-gap' jobs for youth that does not damage long-term perspectives (Oppenheimer & Kalmijn 1995). In similar terms, Myles *et al.* (1993, p. 174) argue that 'low-wage, low-skill jobs in services and sales are "stop-gap-jobs" that mainly serve as "ports of entry" or "launching pads" for new labour force entrants'. In future research, therefore, it would be important to extend this analysis to examine who remains entrapped and becomes a member of the emerging 'precarious proletariat' or who is emancipated from these non-standard jobs. Further extensions would also include considering the impact on partnership formation and fertility, the work hours of both partners once a union is formed, and changes over a longer time period.

Notes

[1] Irregular work 'schedules' include not only the times of work, but also the days (e.g., weekends, holidays), which are not addressed in the confines of this study.

[2] Education is measured by the highest completed level of attainment and divided into the four categories of: less than high school, graduated high school, non-university certificate or university certificate or diploma. Labour force experience is measured by the number of years of work experience in full-year full-time equivalents. It includes all work (part-time and full-time) since first starting to work full-time.

[3] Due to the fact that only dependent workers were questioned regarding work schedules, self-employed workers were omitted from the analysis. Since we are examining youth only, these numbers were already small.

[4] These categories serve as proxies for economic security. A more direct indicator not examined here would be earnings. This is difficult to measure as those working in the most precarious shifts have hours and earnings that often shift from week to week or month to month, necessitating a complicated measure to capture and compare.

[5] Using Statistics Canada's standard classification, part-time work is defined as less than 30 hours a week, with full-time work consisting of 30 or more hours per week.

[6] The reason for engaging in irregular work shifts was asked only for those in the most precarious schedules, which includes workers who are on call or report an irregular schedule (not fixed evening, graveyard, rotating or split shifts).

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